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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,922	12/04/2001	Sergey A. Lukyanov	CLON-035CIP	9351
41064	7590	09/22/2005	EXAMINER	
BOZICEVIC, FIELD & FRANCIS (BD BIOSCIENCES)			ROBINSON, HOPE A	
1900 UNIVERSITY AVENUE			ART UNIT	
SUITE 200			PAPER NUMBER	
EAST PALO ALTO, CA 94303			1656	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/006,922	LUKYANOV ET AL.	
	Examiner	Art Unit	
	Hope A. Robinson	1656	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Hope A. Robinson. (3) _____
 (2) Bret Field. (4) _____

Date of Interview: 13 September 2005.

Type: a) ☒ Telephonic b) ☐ Video Conference
 c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
 If Yes, brief description: _____

Claim(s) discussed: Claim 1.

Identification of prior art discussed: _____

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.


Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

**HOPE ROBINSON
PATENT EXAMINER**


 Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Mr. Field faxed a proposed amendment for discussion purposes. Informed Mr. Field that claims reciting "similarity" should be amended to recite "sequence identity" and that percent language such as "70%" in claim 1 would be problematic under 35 U.S.C. 112 first paragraph written description and enablement. Mr. Field indicated that the specification was enabled and had described some species. Mr Field plans to review the instant specification more thoroughly before submitting an amendment with the above language. Mr. Field will file the appropriate amendment.

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 USSN: 10/006,922

In the claims:

Please enter the following amendments:

See written description guidelines

1. (Currently Amended) A nucleic acid present in other than its natural environment, wherein said nucleic acid encodes a chromo- or fluorescent protein and is from a non-bioluminescent Cnidarian species, wherein said protein has a sequence similarity of at least about 70% with SEQ ID NO:12.

*70%-85%
 recited in the
 claims*

2. (Currently Amended) The nucleic acid according to Claim 1, wherein said non-bioluminescent Cnidarian species is an Anthozoan Anthozoan species.

3. (Original) The nucleic acid according to Claim 1, wherein said nucleic acid is isolated.

4. (Currently Amended) A nucleic acid present in other than its natural environment, wherein said nucleic acid encodes an Anthozoan Anthozoan chromo- or fluorescent protein and is from a non-Pennatulacean Anthozoan non-Pennatulacean Anthozoan species, wherein said protein has a sequence similarity of at least about 70% with SEQ ID NO:12.

5. (Original) The nucleic acid according to Claim 4, wherein said nucleic acid is isolated.

6. (Currently Amended) A nucleic acid ~~having a sequence of residues that is substantially the same as or identical to a nucleotide sequence of at least 10 residues in length of SEQ ID No:11~~ present in other than its natural environment, wherein said nucleic acid encodes a chromo- or fluorescent protein and is from a non-bioluminescent Cnidarian species, wherein said protein has a sequence similarity of at least about 75% with SEQ ID NO:12.

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7. (Currently Amended) The nucleic acid according to Claim 6, wherein said ~~nucleic acid~~ protein has a sequence similarity of at least about 80% with SEQ ID NO:12 ~~60% with a sequence of at least 10 residues in length of SEQ ID No:11.~~

8. (Currently Amended) A nucleic acid present in other than its natural environment that encodes a chromo and/or fluorescent protein, wherein said protein is either:

(a) from a non-bioluminescent ~~Cnidarian~~ Cnidarian species; or

(b) from a non-Pennatulacean Anthozoan ~~non-Pennatulacean Anthozoan~~ species; and
wherein said protein has a sequence similarity of at least about 80% with SEQ ID NO:12.

9. (Currently Amended) The nucleic acid according to Claim 8, wherein said non-bioluminescent ~~Cnidarian~~ Cnidarian species is an Anthozoan ~~Anthozoan~~ species.

10. (Original) The nucleic acid according to Claim 9, wherein said nucleic acid is isolated.

11. (Currently Amended) The nucleic acid according to Claim 9, wherein said protein has an amino acid sequence of ~~SEQ ID No: 12~~ SEQ ID NO:12.

12. (Currently Amended) A nucleic acid present in other than its natural environment that encodes a ~~mutant protein~~ of a chromo and/or fluorescent protein that is either:

(a) from a non-bioluminescent ~~Cnidarian~~ Cnidarian species; or

(b) from a non-Pennatulacean Anthozoan ~~non-Pennatulacean Anthozoan~~ species; and
wherein said protein has a sequence similarity of at least about 85% with SEQ ID NO:12.

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13. **(Currently Amended)** The nucleic acid according to Claim 12, wherein said non-bioluminescent Cnidarian Cnidarian species is an Anthozoan Anthozoan species.

14. **(Original)** The nucleic acid according to Claim 12, wherein said mutant protein comprises at least one point mutation as compared to its wild type protein.

15. **(Original)** The nucleic acid according to Claim 12, wherein said mutant protein comprises at least one deletion mutation as compared to its wild type protein.

Claims 16-17 (Canceled)

18. **(Currently Amended)** ~~A~~ An isolated nucleic acid present in other than its natural environment or mimetic thereof that hybridizes under stringent conditions to a nucleic acid selected from the group consisting of:

~~— (a) — a nucleic acid encoding a chromo or fluorescent protein from a non-bioluminescent Cnidarian species;~~

~~— (b) — a nucleic acid encoding an Anthozoan chromo or fluorescent protein from a non-Pennatulacean Anthozoan species;~~

~~— (c) — a nucleic acid having a sequence of residues that is substantially the same as or identical to a nucleotide sequence of at least 10 residues in length of SEQ ID No:14;~~

~~— (d) — a nucleic acid that encodes a mutant protein of an Anthozoan chromo and/or fluorescent protein that is either:~~

~~(i) from a non-bioluminescent Cnidarian Cnidarian species; or~~

~~(ii) from a non-Pennatulacean Anthozoan non-Pennatulacean~~

~~Anthozoan species; and~~

wherein said protein has a sequence similarity of at least about 70% with SEQ ID NO:12, and wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.

~~— (e) — fragments of the above sequences;~~

~~or its complementary sequence.~~

DRAFT

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19. **(Currently Amended)** The nucleic acid according to Claim 18, wherein said non-bioluminescent ~~Cnidarian~~ Cnidarian species is an Anthozoan Anthozoan species.

20. **(Currently Amended)** A construct comprising a vector and a nucleic acid selected from the group consisting of:

~~— (a) — a nucleic acid encoding a chromo or fluorescent protein from a non-bioluminescent Cnidarian species;~~

~~— (b) — a nucleic acid encoding an Anthozoan chromo or fluorescent protein from a non-Pennatulacean Anthozoan species;~~

~~— (c) — a nucleic acid having a sequence of residues that is substantially the same as or identical to a nucleotide sequence of at least 10 residues in length of SEQ ID No:11;~~

~~— (d) — a nucleic acid that encodes a mutant protein of a chromo and/or fluorescent protein that is either:~~

(i) from a non-bioluminescent ~~Cnidarian~~ Cnidarian species; or

(ii) from a non-Pennatulacean Anthozoan ~~non-Pennatulacean~~

Anthozoan species; and

wherein said protein has a sequence similarity of at least about 70% with SEQ ID NO:12.

~~— (e) — a fragment of the above nucleic acids; and~~

~~— (f) — a nucleic acid or the complement thereof that hybridizes under stringent conditions to the above nucleic acids.~~

21. **(Currently Amended)** The construct according to Claim 20, wherein said non-bioluminescent ~~Cnidarian~~ Cnidarian species is an Anthozoan Anthozoan species.

22. **(Previously Presented)** An expression cassette comprising:

(a) a transcriptional initiation region functional in an expression host;

(b) a nucleic acid selected from the group consisting of the nucleic acids according to Claim 1; and

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(c) a transcriptional termination region functional in said expression host.

23. (Original) A cell, or the progeny thereof, comprising an expression cassette according to Claim 22 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

Claims 24-26 (Canceled)

27. (Previously Presented) A transgenic cell or the progeny thereof comprising a transgene selected from the group consisting of a nucleic acids according to Claim 1.

Claims 28-30 (Canceled)

31. (Currently Amended) A kit comprising ~~a nucleic acid~~ the nucleic acid according to Claim 1 and instructions for using said nucleic acid.

32. (Currently Amended) A nucleic acid present in other than its natural environment, wherein said nucleic acid encodes a chromo- or fluorescent protein from a non-bioluminescent ~~Cnidarian~~ Cnidarian species, wherein said protein ~~nucleic acid~~ has a sequence similarity of at least about 80% with SEQ ID NO:12 ~~40% with SEQ ID NO:14~~.

33. (Previously Presented) The nucleic acid according to Claim 32, wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.

34. (Previously Presented) The nucleic acid according to Claim 32, wherein said protein has an absorbance maximum ranging from about 350 to 650 nm.

35. (Previously Presented) The nucleic acid according to Claim 32, wherein said protein has an absorbance maximum ranging from about 400 to 600 nm.

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36. **(Currently Amended)** The nucleic acid according to ~~Claims~~ Claim 32, wherein said protein has an excitation spectrum ranging from about 300 to 700 nm and an emission spectrum ranging from about 400 to 800 nm.
37. **(Previously Presented)** The nucleic acid according to Claim 32, wherein said protein has an excitation spectrum ranging from about 350 to 650 nm and an emission spectrum ranging from about 425 to 775 nm.
38. **(Previously Presented)** The nucleic acid according to Claim 32, wherein said protein has an excitation spectrum ranging from about 400 to 600 nm and an emission spectrum ranging from about 450 to 750 nm.
39. **(Previously Presented)** The nucleic acid according to claim 32, wherein said protein has an amino acid sequence of SEQ ID NO:12.
40. **(Currently Amended)** A nucleic acid present in other than its natural environment, wherein said nucleic acid encodes a chromo- or fluorescent protein from a non-bioluminescent ~~Cnidarian~~ Cnidarian species, wherein said protein has a sequence similarity of at least about 85% ~~40%~~ with SEQ ID NO:12.
41. **(Previously Presented)** The nucleic acid according to Claim 39, wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.
42. **(Previously Presented)** The nucleic acid according to Claim 39, wherein said protein has an absorbance maximum ranging from about 350 to 650 nm.
43. **(Previously Presented)** The nucleic acid according to Claim 39, wherein said protein has an absorbance maximum ranging from about 400 to 600 nm.

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44. **(Currently Amended)** The nucleic acid according to ~~Claims~~ Claim 39, wherein said protein has an excitation spectrum ranging from about 300 to 700 nm and an emission spectrum ranging from about 400 to 800 nm.

45. **(Previously Presented)** The nucleic acid according to Claim 39, wherein said protein has an excitation spectrum ranging from about 350 to 650 nm and an emission spectrum ranging from about 425 to 775 nm.

46. **(Previously Presented)** The nucleic acid according to Claim 39, wherein said protein has an excitation spectrum ranging from about 400 to 600 nm and an emission spectrum ranging from about 450 to 750 nm.

47. **(Currently Amended)** The nucleic acid according to claim 32, wherein said protein nucleic acid has an amino acid nucleotide sequence of SEQ ID NO:12.

Please add the following new claims:

48. **(New)** The nucleic acid according to Claim 1, wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.

49. **(New)** The nucleic acid according to Claim 1, wherein said protein has an excitation spectrum ranging from about 300 to 700 nm and an emission spectrum ranging from about 400 to 800 nm.

50. **(New)** The nucleic acid according to Claim 4, wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.

51. **(New)** The nucleic acid according to Claim 4, wherein said protein has an excitation spectrum ranging from about 300 to 700 nm and an emission spectrum ranging from about 400 to 800 nm.

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52. (New) The nucleic acid according to Claim 6, wherein said protein has an absorbance maximum ranging from about 300 to 700 nm.